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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/718,840 | 11/21/2003 | Frank W. Perrella | SHINE001-US | 1480 |
| 24222 | 7590 | 12/14/2004 | EXAMINER | |
| MAINE & ASMUS 100 MAIN STREET P O BOX 3445 NASHUA, NH 03061-3445 | | | ASINOVSKY, OLGA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1711 | |
| DATE MAILED: 12/14/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,840

Applicant(s)

PERRELLA, FRANK W.

Examiner

Olga Asinovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Mar26, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-31 and 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al U.S. Patent 3,806,498 in view of Dabi U.S. Patent 4,645,789.

3. Wilson discloses a curable composition comprising a curable polymer having terminal, pendant, or both terminal and pendant free acid groups and a curing agent such as a polyfunctional aziridine-containing compound, column 1, line 70 through column 2, line 50. The polymers having carboxyl functional groups include polybutadiene, polychloroprene, and butadiene/acrylonitrile copolymer, column 5, lines 11-23. These polymers are readable in applicant's claimed polymer (=rubber latex) containing carboxyl functional groups. The carboxyl functional group is readable in applicant's claims 11 and 18. The polyfunctional aziridine compound is readable in applicant's claimed a polyfunctional crosslinking agent. The polymer having free acid groups is in a liquid stage, column 4, lines 7-11, for the present claim 3. The curing time depends on the nature of the polymer having free acid groups to be cured, the curing agent and the curing temperature, column 5, lines 56-65. The statement in the present claims that a crosslinking=curing agent is "timely added to the compound" is inherent in

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Wilson's invention because an amount of cross-linked agent is depending on the desired cross-linked degree. An amount is sufficient to give one acid equivalent per aziridine equivalent, column 5, lines 74-75, for obtaining a very flexible elastomer, column 6, line 1. The resulting tensile strength and elongation% are depending on the curing time and the temperature process conditions, column 6, lines 33-41.

4. Wilson does not disclose a coreactant polyelectrolyte having a relatively low molecular weight in the present claims. However, Wilson discloses that there is no upper limit to the number of free acid groups in the polymer chain. The more free acid groups per polymer chain, the more tightly cross-linked is in the resulting product, column 4, lines 14-20. Therefore, the other polymer having high or low molecular weight and having free acid groups being compatible=coreactant with the main polymer would be expected in Wilson's invention.

Dabi discloses carboxylic polyelectrolytes capable of being crosslinked with crosslinking agents having at least two 1-aziridinyl groups, column 3, lines 27-28, 36-46 and 54-60 and column 4, lines 18-68. The choice of molecular weight for the polyelectrolyte may vary over the wide range from 10,000 to 1,000,000 depending on the desired properties of the finished crosslinked product, column 4, lines 25-37.

Both references disclose the same polyfunctional crosslinking agents using for cross-linking carboxylated polymers.

It would have been obvious to one of ordinary skill in the art to modify the curable composition in Wilson by employing an additional carboxylic polyelectrolyte having high

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or low molecular weight as disclosed by Dabi because the additional polymer having carboxylic groups would be expected in Wilson as a benefit to regulate the crosslinking degree in the resulting product, column 4, lines 14-20.

5. Claims 32-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al U.S. Patent 3,806,498 in view of Dabi U.S. Patent 4,645,789 as applied to claims 1-31 and 46-50 above, and further in view of Briden U.S. Patent 4,605,698.

Wilson and Dabi do not disclose a method for dip-forming rubber product.

Briden discloses a coating composition comprising crosslinkable carboxylated polymer and at least one polyfunctional aziridine crosslinking agent. The composition can be used for dip-forming coating, column 4, lines 27-30.

It would have been obvious to one of ordinary skill in the art to use a dip-forming coating process as disclosed by Briden for each composition in Wilson and Dabi invention as a convention method for applying a coating.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art is relevant to show the state of the art knowledge.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.A.

December 08, 2004

Olga Asinovsky
Examiner
Art Unit 1711


James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700